## CLAIMS

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent is:

1. A method for assuring integrity of information in a Radio Frequency transponder, said information being retained during a period when no power is supplied to said transponder, the method comprising the steps of:

a) providing power to said transponder;

b) determining whether sufficient power was present to retain the information without corruption at the time of said period when no power was supplied to said transponder;

c) issuing a signal to indicate that sufficient power was present to retain said saved information without corruption; and

d) employing said retained information if said signal of step (c) is issued.

2. The method of claim 1, further comprising the following steps:

e) saving said information; and

f) storing power to be used in retaining said saved information during said period when no power is supplied to said transponder.

3. The method of claim 2, wherein a first power source is used to power said transponder and to store power in step (f).

4. The method of claim 2, wherein a first power source is used to power said transponder and a second power source is used to store power in step (f).

5. The method of claim 2, wherein step (b) further comprises a delaying step of allocating additional time to assure proper determination of whether sufficient power is present.

6. A method of effecting identification operation with a plurality of RF tags, comprising the steps of:

a) applying RF energy to said plurality of RF tags whereby at least one of said plurality of RF tags receives enough of said RF energy to become activated;

b) communicating with an activated RF tag, said activated RF tag utilizing said RF energy to maintain state information for a preset time interval;

c) said one RF tag losing enough of said RF energy and thereby de-activating;

d) re-applying said RF energy to said plurality of RF tags whereby said one RF tag receives enough of said RF energy to become active; and

e) communicating with said active RF tag before the end of said preset interval whereby said state information is not lost while said active RF tag was de-activated in step (c).

7. A passive RF tag comprising:

a) a tag antenna for receiving RF power and modulated RF information signals sent to said RF tag by a base station;

b) a first tag voltage rectification circuit coupled to said tag antenna for receiving said RF power from said tag antenna and for providing power to the electronic components of said RF tag, said electronic components receiving said power only from said first tag voltage rectification circuit;

c) a main memory;

d) an auxiliary memory for storing state information; and

e) an auxiliary power capacitor connected to said first tag voltage rectification circuit for energizing said auxiliary memory, where said power capacitor retains sufficient energy to power said auxiliary memory for a first period of time after said RF power to said RF tag is removed.

8. The passive RF tag of claim 7, further comprising a second tag voltage rectification circuit coupled to said tag antenna for receiving said RF power from said tag antenna and for providing power to said electronic components of said RF tag, said electronic components receiving said power only from said first tag voltage rectification circuit, and said auxiliary capacitor receiving power only from said first tag voltage rectification circuit.

9. The passive RF tag of claim 7, wherein said first tag voltage rectification circuit comprises a PFET transistor.

10. The passive RF tag of claim 7, further comprising a check circuit for checking power on said auxiliary power capacitor.

11. The passive RF tag of claim 10, further comprising a delay circuit for delaying a start of operation of said RF tag after said RF power is received.

12. The passive RF tag of claim 11, further comprising a decision circuit for sending a signal indicating that information retained in said main memory is not corrupted, said decision circuit accepting as an input a signal from said check circuit and a signal from a circuit which determines whether power being received by said RF tag is sufficient.

13. The passive RF tag of claim 7, wherein there is provided a first power check circuit for determining whether the voltage on said auxiliary power capacitor is above a predetermined level to generate a first signal (POK) and, if not, a second signal (POK_).

14. The passive RF tag of claim 13, wherein there is included a switch that is responsive to said first signal to apply power to said auxiliary power capacitor.

15. The passive RF tag of claim 13, wherein there is included a second power check circuit that determines whether the voltage on said auxiliary capacitor is above a second level to generate a third signal.

16. The passive RF tag of claim 15, wherein there is included a logic circuit that is responsive to the presence of said first and third signals to permit state data to be transferred from said auxiliary memory to said main memory.

17. A method of effecting a multi-tag identification operation, comprising the steps of:

a) providing RF energy to a plurality of RF tags disposed in a field region thereof to activate at least one of said plurality of RF tags, wherein at least said one RF tag includes a power storage device, an information retaining device, and a check device;

b) determining whether there is sufficient power in said power storage device by utilizing said check device and indicating whether information retained in said information retaining device is valid;

c) supplying energy to said power storage device, whereby said power storage device can power said information retaining

device for a time interval when said one RF tag is de-activated; and

d) using said retained state information if information retained in said storage device is indicated to be valid.